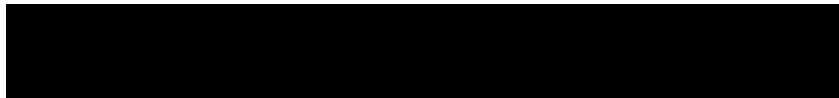


Exhibit 10



UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD, MICRON TECHNOLOGY, INC.,
MICRON SEMICONDUCTOR PRODUCTS, INC., and
MICRON TECHNOLOGY TEXAS LLC¹
Petitioner,

v.

NETLIST, INC.,
Patent Owner.

Case No. IPR2022-00999
Patent No. 11,232,054

PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW

¹ Micron Technology, Inc., Micron Semiconductor Products, Inc., and Micron Technology Texas LLC filed a motion for joinder and a petition in IPR2023-00405 and have been joined as petitioners in this proceeding.

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. BACKGROUND	2
III. ARGUMENT	7
A. The Board Abused Its Discretion by Making a Case Dispositive Factual Finding That Contradicts the Petition and Is Contrary to Evidence Patent Owner Sought to Admit	7
B. The Petition Did Not Suggest That the Encoded Information Received by the AMB are Data, Address, and Control Signals	7
C. The Board Declined to Enter into the Record Contrary Evidence Patent Owner Sought to Admit	9
D. Patent Owner Never Conceded that the FBDIMM AMB Receives Data, Address, or Control Signals in Any Form	11
E. The Board Effectively Absolved Petitioners of Their Obligations Under 37 C.F.R. § 42.104	12
IV. CONCLUSION	15

TABLE OF AUTHORITIES

Page(s)

Cases

<i>Ariosa Diagnostics v. Verinata Health, Inc.</i> , 805 F.3d 1359 (Fed. Cir. 2015)	13
<i>Brand v. Miller</i> , 487 F.3d 862 (Fed. Cir. 2007)	14
<i>Fanduel, Inc. v. Interactive Games LLC</i> , 966 F.3d 1334 (Fed. Cir. 2020)	15
<i>Garmin Int’l, Inc. v. LoganTree, LP</i> , 825 F. App’x 894 (Fed. Cir. 2020)	8
<i>Harmonic Inc. v. Avid Tech., Inc.</i> , 815 F.3d 1356 (Fed. Cir. 2016)	9
<i>Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.</i> , 821 F.3d 1359 (Fed. Cir. 2016)	13
<i>SAS Inst., Inc. v. Iancu</i> , 138 S. Ct. 1348 (2018)	12
<i>Ultratec, Inc. v. CaptionCall, LLC</i> , 872 F.3d 1267 (Fed. Cir. 2017)	10
<i>VirnetX Inc. v. Mangrove Partners Master Fund, Ltd.</i> , 778 F. App’x 897 (Fed. Cir. 2019)	11
<i>In re Zurko</i> , 258 F.3d 1378 (Fed. Cir. 2001)	15

Statutes

35 U.S.C. § 312(a)(3)	13
-----------------------------	----

Regulations

37 C.F.R. § 42.51(b)(1)(iii)	10
------------------------------------	----

TABLE OF AUTHORITIES
(Cont'd)

	<u>Page(s)</u>
37 C.F.R. § 42.71(d)	1
37 C.F.R. § 42.104	1, 12
37 C.F.R. § 42.123(b)	9

Pursuant to 37 C.F.R. § 42.71(d) and the Revised Interim Director Review Process of July 24, 2023, Patent Owner respectfully requests Director Review of the Board's Final Written Decision (Paper 51 ("FWD")).

I. INTRODUCTION

The Board's Final Written Decision finding claims 1-15 of the '054 Patent unpatentable should be reversed for at least two reasons: 1) the Board abused its discretion by making a case dispositive finding that is contrary to the position argued in the Petition and contrary to admissions by two of Petitioner Micron's corporate representatives in district court proceedings that Patent Owner sought to enter into the record, and 2) the Board effectively absolved Petitioners of their obligations under 37 C.F.R. § 42.104 to "specify where each element of the claim is found in the prior art patents or printed publications relied upon" by making a dispositive finding contrary to the Petition.

This Request presents important issues of policy and practice that require Director Review: whether a case dispositive finding that is inconsistent with the Petition and contrary to the testimony of two of Petitioner Micron's corporate representatives that the Board declined to enter into the record is an abuse of discretion. To be clear, Patent Owner in no way seeks to impugn the integrity or professionalism of the Panel. The questions presented in this request are not the subject of clear guidance from the Director.

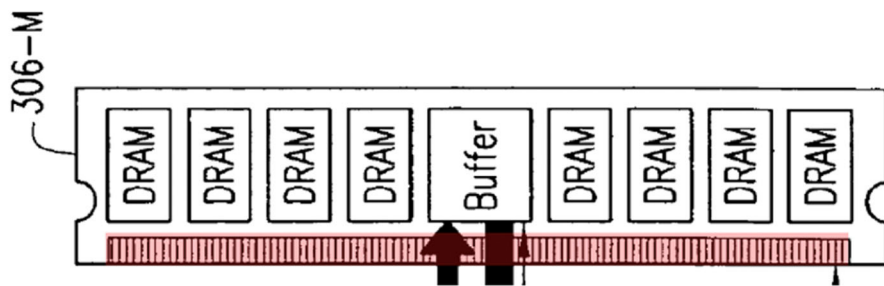
II. BACKGROUND

The '054 Patent relates to computer memory modules. Claim 1 (and thus dependent claims 2-15) require the memory module to include, among other things, an “interface including a plurality of edge connections configured to couple power, data, address and control signals between the memory module and the host system.” EX1001, 38:23-25. The specification teaches that this is achieved by using a memory module interface with edge connections that “provide[] a conduit for power voltage as well as data, address, and control signals between the memory system 1010 [e.g., a memory module] and the host system.” *Id.*, 22:1-6.

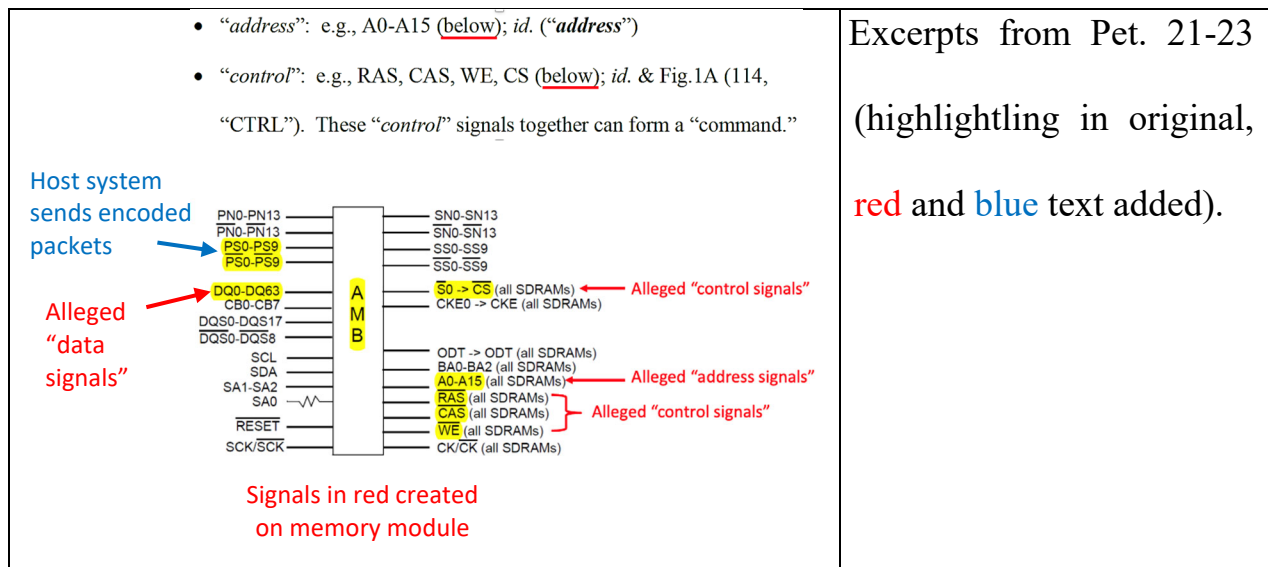
The Petitioners² relied on Harris (EX1023) and two documents it refers to as “FBDIMM Standards” (EX1027 and EX1028) allegedly implemented by Harris for this limitation. The Petition describes an FBDIMM or fully-buffered dual inline memory module including an advanced memory buffer (“AMB”) that receives packetized information from the host via the edge connections of the memory module, decodes the received information, and outputs data, address and control signals based on the decoded information to memory devices. EX1027, p.4;

² The Micron Petitioners were joined to this proceeding. *See* Paper 27. Micron and Samsung are co-petitioners in several other IPRs involving Netlist’s patents. *E.g.*, IPR2022-00615, -00639, -00711, -00996, -01427, and -01428.

EX1028, p.29 (FB-DIMM Channel Signals are those received via the DIMM edge connections and DDR2 Interface Signals are those output from the AMB to the DDR2 memory devices); POR (Paper 22) 14-18. The Petition (excerpted below) identified data, address, and control signals generated on the module (by the AMB) as meeting the limitation, despite the fact that the claim requires these signals to be coupled between the host system and memory module through the edge connections.



Grounds 1A-1C teach the edge connections in Harris, consistent with JEDEC's FBDIMM Standards, are "configured to couple power, data, address and control signals between the memory module and the host system":



As explained in the Patent Owner Response, "the DIMM and the AMB do not

receive identified data signals (DQ0-DQ63) or address and control signals (A0-A15, RAS, CAS, WE) from the host,” but instead “those are signals generated by the AMB based on the decoded ‘FB-DIMM Channel Signals,’ ... received from the host.” POR 14. Petitioners’ expert agrees, stating “the AMB buffer is responsible for buffering and converting the bi-directional communications with data, address, and control signal information into data, address, and control signals for the memory devices.” EX1003 (Dr. Wolfe Decl.), ¶ 231.

Importantly, the Petition did not acknowledge the fact that the relied-upon signals are generated on the module, based on encoded information received from the host. As such, the Petition presented no argument that the encoded information received by the module met the claim limitation. And the Reply (Paper 26) did not deny that the Petition pointed solely to the signals transmitted between the AMB and the DRAMs for the recited data, control and address signals, instead of those received from the host via the edge connections.

In an attempt to cure that deficiency, the Reply argued for the first time that “signals received by the AMB on the FBDIMM **result** in ‘data, address, and control **signals** needed by the DDR2 SDRAM,’” and thus “the AMB must necessarily couple data, address, and control **signals** from the host system to the memory module.” Reply 10 (emphasis in original). The Reply offered no support for this conclusory position. Further, the claims do not recite a buffer coupling signals

between the host and memory module, but edge connections configured to do so.

In Sur-Reply (Paper 33), Netlist pointed out the abandonment of the Petition and its improper new arguments. *See* Sur-Reply 6-10. And at argument, Patent Owner emphasized that the claimed signals “must come from the host system” and the “failure of evidence in [the] petition.” Paper 49, 66:16-24.

Patent Owner also notified the Board that “in a concurrently pending district court litigation, a deposition transcript of Micron’s corporate representative ... shows Petitioner is taking positions that are inconsistent with those advanced in these proceedings.” Paper 44, 2. Patent Owner filed an opposed Motion to Submit Supplemental Information, which explained that, in a parallel litigation between Netlist and Micron involving the ’054 Patent, Micron designated Mr. Boe Holbrook—employed at Micron since 2002 as a “Senior Electrical Engineer” working in the field of memory systems—as its 30(b)(6) corporate representative on “all facts and circumstances” relating to non-infringement. Paper 45, 1, 3. At his August 30, 2023 deposition, Mr. Holbrook agreed that in the context of “how memory devices are controlled on a module in respect to FBDIMM,” there is “a difference between *encoded data* and *data signals*.” *Id.* at 3.³ On the same day as the FWD, the Board denied Netlist’s motion, concluding that “the proffered

³ Emphasis added throughout unless otherwise indicated.

testimony is [allegedly] ***not relevant in this proceeding***” and stating incorrectly Netlist’s position as “not argu[ing] that the encoded data received by an FBDIMM AMB do not contain data, address, and control signals,” but rather contesting the “format of the ... signals, not their content.” Paper 50, 3; *contra* Sur-Reply 8.

On November 22, 2023, Patent Owner alerted the Board as quickly as possible that “Micron has recently replaced Mr. Holbrook on technical infringement matters with a different representative, Mr. Scott Cyr,” who was deposed on November 20. EX2072, 4. Mr. Cyr testified that sending address and control signals from the host system to the memory module is a “different technology” than delivering packetized information from a host system to an AMB on a FBDIMM (*id.*), which directly undercuts Petitioners’ Reply arguments. Netlist sought leave to submit this additional testimony “without any argument or explanation.” *Id.* at 5. On November 29, the Board denied Netlist’s request for leave, stating simply that the “requests come too late in these proceedings to be considered and in any case ***would not be helpful to resolving the issues presented*** in these cases.” *Id.* at 1.

The Board issued the Final Written Decision on December 5, accepting Petitioners’ new attorney argument from the Reply that the encoded information received by an FBDIMM memory module satisfies the “data, address, and control signals” limitation of the claims. FWD 44-45. The Board incorrectly stated that “Petitioner and Patent Owner agree that FBDIMM AMB receives data, address, and

control signals encoded in packetized, serialized form at its edge connections.” FWD 44. Patent Owner did not agree that the packetized, serialized information received by the AMB represents a “form” of the recited data, address, and control signals. Nor did the Petition make this assertion, or present any evidence in support of it.

III. ARGUMENT

A. The Board Abused Its Discretion by Making a Case Dispositive Factual Finding That Contradicts the Petition and Is Contrary to Evidence Patent Owner Sought to Enter into the Record

The Board found, without citation or explanation, “that the data, address, and control signals of Harris and the FBDIMM Standards as received at edge connections coupling the memory module and host system satisfy [the] claim limitation,” and the similarly unsupported assertion that “the signals [being] encoded, packetized, and serialized does not change the fact that they are data, address, and control signals.” FWD 44-45. That finding contradicts the Petition, and is directly contradicted by the testimony from Petitioner Micron’s 30(b)(6) representatives that Patent Owner sought to enter into the record.

B. The Petition Did Not Suggest That the Encoded Information Received by the AMB are Data, Address, and Control Signals

The Petition pointed only to the signals generated on-module by the AMB as satisfying the recited “data, address, and control signals.” *See* Pet. 22-23 (identifying data signals DQ0-DQ63, address signals A0-A15, and control signals RAS, CAS, WE, and CS). The Petition did not even mention that these signals are generated on

the module based on encoded information received from the host. *See supra*, Section II. Moreover, Petitioners did not submit a reply declaration or any other record evidence supporting the Board’s finding that the encoded, packetized information received by an FBDIMM module constitute—in some form—the recited data, address, and control signals. Moreover, Petitioners never sought a construction of the enumerated signals that would include encoded, packetized information.

Thus, only Petitioners’ reply attorney argument can support the Board’s finding. “Bare assertion through implication that a reference discloses a claim limitation, without more, is not enough to meet [Petitioners’] burden.” *Garmin Int’l, Inc. v. LoganTree, LP*, 825 F. App’x 894, 899 (Fed. Cir. 2020) (non-precedential). Moreover, the Board’s factual finding is also contrary to the relevant expert testimony. Dr. Mangione-Smith testified, citing competent evidence, that “the AMB *receives* data, address and control *information*, decodes it, *and generates* the data, address, and control *signals* needed by the DDR2 SDRAMs.” EX2061, ¶ 31; *see also id.*, ¶¶ 32-34. Even Petitioners’ expert agrees there is a difference. *See, e.g.*, EX1003, ¶ 231 (stating that “the AMB buffer is responsible for buffering and *converting* the bi-directional communications with data, address, and control signal *information into* data, address, and control *signals* for the memory devices”).

In short, the finding that information contained in the packetized, serialized “FBDIMM Channel Signals” constitutes the claimed data, address, and control

signals contradicts both the Petition and the expert testimony. *See* FWD 44-45. Like the petitioner in *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356 (Fed. Cir. 2016), Petitioners’ Reply relied on an “unsupported and inferential” theory. *Id.* at 1363. In that case, the petitioner failed to “relate what appears to be generic multiplexing and bit rate adjustment” to a claim requiring specific timing. *See id.* Likewise, Petitioners here rely on “signals” and “information” but fail to explain how they satisfy the specific claim language at issue. *See* Paper 48, 1 (“The question is whether the encoded data packets are these four specific signals. Not whether an encoded data packet is generically a ‘signal.’”).

C. The Board Declined to Enter into the Record Contrary Evidence Patent Owner Sought to Admit

The Board declined to consider directly relevant testimony by Petitioner Micron’s corporate representatives in a co-pending district court litigation. Specifically, the Board dismissed material evidence on a case-dispositive issue as “not relevant in this proceeding” (Paper 50, 3) or not “helpful to resolving the issues presented in these cases” EX2072, 1. As Patent Owner explained, because Petitioners’ Reply newly argued that the encoded signals received by the AMB contain the claimed signals or otherwise satisfy the claim language—attorney argument the Board later adopted—the contradictory testimony of Micron’s corporate representatives is directly relevant, particularly in view of the dearth of evidence supporting Petitioners’ theory. *See* Paper 48, 1-2.

Considering this testimony was appropriate under 37 C.F.R. § 42.123(b) because it could not have been obtained earlier (*see, e.g.*, Paper 45, 5), and because the interest of justice requires consideration of sworn testimony from a Petitioner's corporate representative that conflict with Petitioners' positions in this proceeding. *Cf. Ultratec, Inc. v. CaptionCall, LLC*, 872 F.3d 1267, 1272 (Fed. Cir. 2017) ("The Board offers no reasoned basis why it would not be in the interest of justice to consider sworn inconsistent testimony on the identical issue.").

Indeed, this is precisely the type of evidence that parties are obligated to serve. *See* 37 C.F.R. § 42.51(b)(1)(iii) (providing that "a party must serve relevant information that is inconsistent with a position advanced by the party during the proceeding"). Here, Petitioner Micron not only failed to serve such evidence, it also obstructed Netlist's attempts to introduce it in this proceeding through improperly broad protective-order designations. *See, e.g.*, Paper 44, 2; Paper 45, 5.

As in *Ultratec*, where the Federal Circuit vacated final written decisions because the Board failed to consider testimony from one of the experts in parallel litigation, "[t]his is not evidence that could have been located earlier through a more diligent or exhaustive search; it did not exist during the IPR discovery period," and "[t]he fact that [Netlist] could have, but did not, depose *and* obtain inconsistent testimony from [Micron] during the IPR itself is not a basis for concluding otherwise." *Ultratec*, 872 F.3d at 1272 (emphasis in original). As such, the Board

further abused its discretion by preventing Patent Owner from at least moving to admit directly relevant evidence. In a similar context, the Federal Circuit has found that “the Board abused its discretion in denying [patent owner] the ability to even file a motion” to “show the evidence that it had.” *VirnetX Inc. v. Mangrove Partners Master Fund, Ltd.*, 778 F. App’x 897, 904 (Fed. Cir. 2019) (non-precedential).

In its Final Written Decision, the Board stated that Patent Owner’s arguments were directed “to the format of the data, address, and control signals, not their content,” and also stated that “Patent Owner does not argue that the encoded data received by an FBDIMM AMB do not contain data, address, and control signals.” Paper 50, 3. But that is precisely what Patent Owner argued (*see, e.g.*, POR 14; Sur-Reply 8), and why it sought to submit Petitioner Micron’s corporate representatives’ testimony distinguishing between information contained in signals received by the AMB, on the one hand, and data, address, and control signals, on the other hand. The Board’s misapprehension of Patent Owner’s positions underscores the similar errors in the Final Written Decision and further supports reversal.

D. Patent Owner Never Conceded that the FBDIMM AMB Receives Data, Address, or Control Signals in Any Form

The Board stated that “Patent Owner agree[s] that FBDIMM AMB receives data, address, and control signals encoded in packetized, serialized form at its edge connections.” FWD 44 (citing Sur-Reply 10). Patent Owner made no such concession. The cited portion of Patent Owner’s Sur-Reply expressly states that

these signals are “*not* exchanged at the interface between the FBDIMM and the host,” and that, consistent with the testimony of both parties’ experts, “*information* encoding data, address, and control—as opposed to the recited ‘data, address and control *signals*’—is received at the DIMM interface.” Sur-Reply 9-10.

Patent Owner never suggested that this information includes the claimed signals, which it does not. As Patent Owner explained, even Petitioners’ own expert distinguished between information and signals generated using that information. *Id.* at 8; EX1003, ¶ 231 (stating that “the AMB buffer is responsible for buffering and *converting* the bi-directional communications with data, address, and control signal *information into* data, address, and control *signals* for the memory devices”). Patent Owner’s expert drew this same distinction. *See* EX2061, ¶ 31 (“[T]he AMB *receives* data, address and control *information*, decodes it, *and generates* the data, address, and control *signals* needed by the DDR2 SDRAMs.”). “The claims, however, require specific ‘signals,’ and not just ‘information,’ be coupled between the host and the memory module.” Sur-Reply 8 (citing EX1001, 38:23-25).

E. The Board Effectively Absolved Petitioners of Their Obligations Under 37 C.F.R. § 42.104

37 C.F.R. § 42.104 required Petitioners to “specify where each element of the claim is found in the prior art patents or printed publications relied upon.” The contentions in the Petition “define the scope of the litigation all the way from institution through to conclusion.” *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1357

(2018). Accordingly, it is of “the utmost importance that petitioners in the IPR proceedings adhere to the requirement that *the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds* for the challenge to each claim.” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (quoting 35 U.S.C. § 312(a)(3)). For that reason, a “petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability,” Consolidated Trial Practice Guide at 73, and petitioners may not introduce an “entirely new rationale,” *Intelligent Bio-Systems*, 821 F.3d at 1370, or rely “on previously unidentified portions of a prior-art reference to make a meaningfully distinct contention,” *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015).

The Board’s decision to ignore that the Petition only pointed to signals generated on the module by the AMB presents an important policy issue: should the Board be allowed to alter Petitioners’ explicit characterizations of the grounds in the Petition. The Petition relies solely on signals generated by the AMB on the module. The Board’s decision rests on its finding that the “FBDIMM AMB receives data, address, and control signals encoded in packetized, serialized form at its edge connections.” FWD 44. However, there is no citation in the Board’s decision to record evidence, only the Petition (which includes no such argument) and Patent Owner’s non-existent concession. *See id.* To be clear, this is not a case where the

experts disagree and the Board adopts the view of one expert over another. Here, as explained above, **both** experts distinguished between information and signals generated using that information. *See* EX1003, ¶ 231; EX2061, ¶ 31. The record also includes competent evidence submitted by Dr. Mangione-Smith in support of his testimony that the data, address, and control signals are generated on-module by the AMB. EX2061, ¶ 31-34 (citing EX1028, p.29; EX2101, p.5; EX2039, p.2). The record, however, includes **no** testimony from Petitioners' expert supporting a finding that encoded information received by the AMB is a "form" of the recited signals.

Patent Owner recognizes that the Board believes in good faith that its finding is correct. But what it has in effect done is alter the Petition, which relied solely on signals generated by the AMD, which is on module. *See, e.g., Brand v. Miller*, 487 F.3d 862, 869-70 (Fed. Cir. 2007) (holding that "it is impermissible for the Board to base its factual findings on its expertise, rather than on evidence in the record").

The Board's finding also contradicts Micron's corporate representatives' testimony, which was before the Board in at least some form. *See* Paper 45 (attaching Mr. Holbrook's relevant testimony); *see also* EX2072, 4 (stating that Mr. Cyr "testified that using address and control signals sent from the host system to the memory module is a 'different technology' from using packetized information delivered from a host system to an AMB on a FBDIMM"). Yet the Board concluded that the contrary testimony is either "***not relevant in this proceeding***" or "***not ...***

helpful to resolving the issues presented.” Paper 50, 3; EX2072, 1.

The lack of supporting evidence in the record, coupled with the lack of explanation or citation in the FWD, suggests that the Board relied on its own expertise to conclude that the encoded and packetized signals received by an FBDIMM are the claimed data, address, and control signals. *See* FWD 44-45. That is improper. *See Fanduel, Inc. v. Interactive Games LLC*, 966 F.3d 1334, 1344 (Fed. Cir. 2020) (noting that while the Board is not “somehow obligated to defer to [a petitioner’s expert’s] opinion ... just because the patent owner in this case did not supply opposing expert guidance,” the Board “*cannot ‘simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense’*” (quoting *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001))). This is not a situation in which the Board weighed the evidence and found some evidence more persuasive than other evidence. The record evidence does not support Petitioners’ new reply argument, nor does the Board cite to any or explain its determination that “FBDIMM AMB receives data, address, and control signals encoded in packetized, serialized form at its edge connections.” FWD 44.

IV. CONCLUSION

For all of the reasons articulated above, Patent Owner respectfully requests that the Director reverse the Board’s Final Written Decision as to claims 1-15.

Dated: January 4, 2024

Respectfully submitted,

By: /Philip Warrick/

H. Annita Zhong (Reg. No. 65,530)
Jonathan M. Lindsay (Reg. No. 45,810)
Jason Sheasby (*pro hac vice*)
IRELL & MANELLA LLP
1800 Avenue of the Stars, Suite #900
Los Angeles, CA 90067-4276
Telephone: (310) 203-7183
Fax: (310) 203-7199

Philip Warrick (Reg. No. 54,707)
IRELL & MANELLA LLP
750 17th Street NW, Ste. 850
Washington, DC 20006
Telephone: (202) 777-6500

Attorneys for Patent Owner
Netlist, Inc.

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. section 42.6, that on January 4, 2024, a complete copy of the foregoing document was served by electronic mail, as agreed to by the parties, upon the following:

Eliot D. Williams, Reg. No. 50,822
Theodore W. Chandler, Reg. No. 50,319
Ferenc Pazmandi, Reg. No. 66,216
Brianna L. Potter, Reg. No. 76,748
DLSamsungNetlistIPRs@BakerBotts.com

Juan C. Yaquian
Michael Rueckheim
Winston-IPR-Netlist@winston.com

/Susan M. Langworthy/
Susan M. Langworthy